

CLAIMS

1. A method of transmitting data in a digital broadband communication network comprising:

encapsulating the data according to a first protocol to produce a data packet;

mapping the data packet onto a transport packet;

encoding filtering information in a filtering field included in the transport packet; and

repeatedly transmitting the transport packet using a data carousel mechanism.

2. A method according to claim 1, wherein the filtering information is a part or whole of an address associated with one or more data receiving devices.

3. A method according to claim 2, wherein the address is an IP or MAC address.

4. A method according to claim 1, wherein the data packet is mapped onto an MPEG-2 transport packet.

5. A method according to claim 1, wherein the data is an MMS message and is encapsulated according to the DSM-CC datagram section format with a table id within the range 0x40 to 0xFF.

6. A method according to claim 1, wherein the first protocol is a DSM-CC protocol and the location and format of the filtering information corresponds to a location and format of filtering information in a transport packet formed from the same data when encapsulated according to a second protocol, said second protocol being DVB-MPE.

7. A method according to claim 1, wherein the step of mapping the data packet comprises encoding scrambling information indicating a scrambling

control mode of the data packet, said scrambling information being unrelated to a scrambling control mode of the transport packet.

8. A method according to claim 7, wherein the data packet contains reserved bits and the step of mapping the data packet onto the transport packet comprises replacing said reserved bits with the scrambling information.

9. A method according to claim 7, wherein the location and format of the scrambling information corresponds to a location and format of scrambling information in a transport packet formed from the same data when encapsulated according to a second protocol, said second protocol being DVB-MPE.

10. A method according to claim 8, wherein the scrambling information comprises a first bit indicating whether or not the data packet has been scrambled, wherein, if the data packet has been scrambled, the second bit indicates a scrambling control mode.

11. A computer program containing program instructions for configuring a processor to perform a method according to claim 1.

12. An apparatus comprising a server configured to:
receive data from a source;
encapsulate the data to produce a data packet according to a first protocol;
map the data packet onto a transport packet;
encode filtering information in a filtering field included in the transport packet; and
repeatedly transmit the transport packet using a DVB data carousel mechanism.

13. An apparatus according to claim 12, wherein the filtering information is a part or whole of an address associated with one or more data receiving devices.

14. An apparatus according to claim 13, wherein the address is an IP or MAC address.
15. An apparatus according to claim 12, wherein the server is configured to map the data packet onto an MPEG-2 transport packet.
16. An apparatus according to claim 12, wherein the data is an MMS message and the server is configured to encapsulate the data according to the DSM-CC datagram section format with a table id within the range 0x40 to 0xFF.
17. An apparatus according to claim 12, wherein the first protocol is a DSM-CC protocol and the server is configured to encode the filtering information so that its location and format corresponds to a location and format of filtering information in a transport packet formed from the same data when encapsulated according to a second protocol, said second protocol being DVB-MPE.
18. An apparatus according to claim 12, wherein the server is further configured to encode scrambling information within the transport packet, said scrambling information indicating a scrambling control mode of the data packet unrelated to a scrambling control mode of the transport packet.
19. An apparatus according to claim 18, wherein the data packet contains reserved bits and the server is configured to encode the scrambling information by replacing said reserved bits with said scrambling information when mapping the data packet onto the transport packet.
20. An apparatus according to claim 18, wherein the server is configured so that the location and format of the scrambling information in the transport packet corresponds to a location and format of scrambling information in a transport packet formed from the same data when encapsulated according to a second protocol, said second protocol being DVB-MPE.

21. An apparatus according to claim 19, wherein the server is configured to define the scrambling information so that a first bit indicates whether or not the data packet has been scrambled, and wherein, if the data packet has been scrambled, a second bit indicates a scrambling control mode.
22. A communication system comprising:
 - an apparatus according to claim 12;
 - a DVB communication network; and
 - one or more receiving devices.
23. A method of forming a transport packet comprising steps of:
 - forming a header containing an identifier relating to a data carousel;
 - forming a payload comprising data to be transmitted to one or more users of one or more receiving devices; and
 - forming a filtering field containing filtering information relating to said one or more receiving devices.
24. A method according to claim 23, wherein the filtering information is a part or whole of an address associated with said one or more receiving devices.
25. A method according to claim 23, further comprising a step of inserting payload scrambling control mode information relating to a scrambling status of the payload data, said scrambling status being unrelated to a scrambling status of the transport packet.
26. A method according to claim 25, wherein the payload scrambling control information comprises two bits, the first bit indicating whether or not the payload has been scrambled and, where said payload has been scrambled, the second bit indicating one of two scrambling control modes.
27. A method of transmitting data in a digital broadband communication network comprising:

encapsulating the data according to a first protocol to produce a data packet;

mapping the data packet onto a transport packet;

incorporating within the transport packet payload scrambling control mode information relating to an encryption status of the data packet mapped onto said transport packet; and

repeatedly transmitting the transport packet using a data carousel mechanism.

28. A method according to claim 27, wherein the first protocol is defined by the Digital Storage Media Command and Control standard and the data is encapsulated according to the DSM-CC datagram section format.

29. A method according to claim 28, wherein the data is an MMS message and the data packet has a table id within the range 0x40 to 0xFF.

30. A method according to claim 27, wherein the step of incorporating payload scrambling control information comprises encoding the payload scrambling control information in two bits of the transport packet that correspond to reserved bits of the data packet.

31. A method according to claim 27, wherein a location of the payload scrambling control mode information in the transport packet corresponds to a location of payload scrambling control mode information in a transport packet formed from the same data when encapsulated according to a second protocol, said second protocol being DVB-MPE.

32. A method according to claim 30, wherein a first value encoded in a first bit indicates whether or not the payload has been scrambled.

33. A method according to claim 32, wherein, if the payload has been scrambled, a second value encoded a second bit indicates a scrambling control mode that has been used.

34. A method according to claim 27, wherein the data packet is mapped onto an MPEG-2 transport packet.
35. A computer program containing program instructions for configuring a processor that performs the method of claim 27.
36. An apparatus comprising a server configured to:
 - receive data from a source;
 - encapsulate the data according to a first protocol to produce a data packet;
 - map the data packet onto a transport packet;
 - incorporate within the transport packet payload scrambling control mode information relating to an encryption status of the data packet mapped onto said transport packet; and
 - repeatedly transmit the transport packet using a data carousel mechanism.
37. An apparatus according to claim 36, wherein the first protocol is defined by the Digital Storage Media Command and Control standard and the data is encapsulated into the DSM-CC datagram section format.
38. An apparatus according to claim 37, wherein the data is an MMS message and the server is configured to encapsulate the data packet with a table id within the range 0x40 to 0xFF.
39. An apparatus according to claim 36, wherein the server is configured to incorporate payload scrambling control information by encoding the payload scrambling control information in two bits that correspond to reserved bits of the data packet.
40. An apparatus according to claim 36, wherein a location of the payload scrambling control mode information corresponds to a location of payload scrambling control mode information in a transport packet formed from the same

data when encapsulated according to a second protocol, said second protocol being DVB-MPE.

41. An apparatus according to claim 39, wherein a first value encoded in a first bit indicates whether or not the payload has been scrambled.

42. An apparatus according to claim 41, wherein, if the payload has been scrambled, a second value encoded in a second bit indicates a scrambling control mode that has been used.

43. An apparatus according to claim 36, wherein the server is configured to map the data packet onto an MPEG-2 transport packet.

44. A communication system comprising:
an apparatus according to claim 36;
a DVB communication network; and
one or more receiving devices.

45. A method of forming a transport packet comprising the steps of:
forming a header containing an identifier relating to a digital data carousel;

forming a payload comprising data to be transmitted to one or more users of one or more receiving devices; and

forming a payload scrambling control mode field containing scrambling control mode information, said scrambling control mode information being unrelated to an encryption status of said header.

46. A method according to claim 45, wherein the payload scrambling control mode field comprises two bits, a first value encoded in the first of the two bits indicating whether or not the payload has been scrambled.

47. A method according to claim 46, wherein, if the payload has been scrambled, a second value encoded in the second of the two bits indicates which of two scrambling control modes has been used.